

to the incomparable  
couch of death thy  
rhythmic  
lover

# THE CALIFORNIA TECH

thou answerest  
them only with  
spring

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NUMBER 22



Junior Mike McDonald spices up Kremlin Square by giving Muscovites a little taste of Hollywood Decadence, USA.

## Goldberger Named Part of Campaign Finance Committee

by Chris Meisl

President Marvin Goldberger has been named one of 21 prominent Californians that will study the state's campaign finance problems.

The group, which also includes the president of Stanford University, comprise the newly created California Commission on Campaign Financing.

According to its Executive Director, Tracy Weston, the Commission will interview public officials and other experts, conduct research and public opinion surveys, and issue a bipartisan comprehensive report by November of

this year.

This report is expected to include possible solutions to questions that will be addressed by the Commission.

"The business, legal, academic, labor and judicial communities are all represented on the Commission," said Weston. "These diverse people have been brought together by a common growing concern over the effects our current system of campaign finance is having on California government."

Although Goldberger will be heading local area research, he said "it will not interfere with my work as president of Caltech." The Commission meets once every month, alternating between Los Angeles and Oakland.

Goldberger discussed his involvement in the Commission with the Board of Trustees and they gave their full support.

Among the issues to be con-

sidered are the effects of Political Action Committees, incumbent fundraising advantages, contribution limitations and the public financing of campaigns, which is currently done in 17 states.

The Commission will also look at why campaign costs for legislative races increased by 3000% between 1958 and 1982, especially in light of the fact that small direct contributions to legislative candidates has decreased significantly.

"The most striking idea" presented at the first meeting, held on February 28 in Los Angeles, was that an increase in public spending on campaigns may be a good solution, according to Goldberger.

The Commission is privately funded by a grant from the Weingart Foundation, a Los Angeles charity organization, and was originally conceived by a firm of public interest lawyers.

## Barish Looks for Monopoles

Caltech News Bureau

Magnetic monopoles, those elusive fundamental particles that represent the basic unit of magnetism, have been the object of futile searches by scientists for over five decades. These particles, which, unlike familiar magnets, have but a single pole, are one of the holy grails of physics. Their discovery would confirm fundamental particle theories, as well as offer important revelations about the origin and fate of the universe. Physicists at a dozen or so research institutions around the world are either searching for monopoles, or planning or building detectors.

In 1982, in fact, the scientific world was set abuzz by a preliminary report by Stanford researcher Blas Cabrera that a monopole-like signal had been received by his detector—a signal that now appears not to have been a monopole. Since then, no further candidates have been detected by a more elaborate instrument built by Cabrera, and scientists now believe a much larger detector will be needed to detect the rare monopoles.

One monopole-seeking physicist is Caltech Professor of Physics Barry Barish, who, in addition to studying the conventional ionization-detection method for discovering monopoles, is also taking a highly unusual approach in his quest. Sponsored by the Department of Energy, he and his colleagues are developing an apparatus that would, in effect, listen for the high-frequency ping of magnetic monopoles as those massive particles plow through large aluminum disks. If their system can be made sensitive enough, the next few years could see a football-field-sized array of such disks, with finely tuned acoustic detectors attach-

ed, listening for the single monopole that some scientists have theorized would strike an array that size each year.

The challenge of detecting monopoles is considerable, says Dr. Barish. Grand Unified Theories, developed to explain the nature of particles, predict that monopoles would be extraordinarily massive for fundamental particles—weighing about as much as a paramecium. Such particles would be slow-moving, only about one-thousandth the speed of light. Thus, they might be expected to produce only tiny electrical effects when they passed through ionization detectors commonly used to detect particles.

Monopole detection is also stymied by the probable rarity of such particles in the cosmic rays streaming from space. Because of their postulated huge mass, monopoles could not be common, or their mass would be enough to have already brought the universe crashing in upon itself, argue scientists—an occurrence which has obviously not taken place. Also, too many monopoles zipping through the galaxy would have shorted out the galactic magnetic field, reasoned University of Chicago physicist Eugene Parker. The fact that the galaxy does have a magnetic field thus limits the concentrations of monopoles that could exist.

"These astrophysical considerations set the scale for future experiments," said Dr. Barish. "The experimental challenge is to develop detectors that could cover large areas, with enough sensitivity to uniquely detect monopoles." Thus, he and his colleagues are experimenting with ionizations detectors, which would attempt to measure the tiny flash of light

produced when a monopole passed through a special plastic scintillation material. In one of his laboratories is a stack of such detectors, 1.5 meters by 3 meters, surrounded by photomultipliers. The Caltech scientists use this array to understand the problems involved in making large ionization arrays.

In such an array, the characteristic signature of a monopole would be the detection of an ionizing particle that can penetrate the detector, but moving at only one-thousandth the speed of light. Dr. Barish's present work will determine the optimal scintillator design and will also help decide whether a large array would need to be placed underground to screen out extraneous cosmic rays. For example, the Italian government is making available a large tunnel called the Gran Sasso, near Rome, as a candidate site.

Although scintillator arrays are considered the best current technology for detecting monopoles, their cost is high. The 10,000-square-meter array scientists believe necessary would cost tens of millions of dollars. Before embarking on such an expensive project, Dr. Barish believes that alternative schemes should be investigated, which has led him to mount a study of an acoustic technique.

"When monopoles pass through a conductor, we theorize that they produce eddy currents that would create an ultrasonic shock wave. By attaching piezoelectric transducers to the conductor, we might be able to detect this high-frequency sound.

"To make sure that any signal we obtained would be unambiguously due to monopoles, we would use a stack of such conductors, in-

continued on page 2

## HP Gives Tech \$500,000 Worth

Caltech News Bureau

Hewlett-Packard has awarded Caltech equipment worth \$528,694 for use in computer science and applied physics courses.

"We are delighted that Hewlett-Packard has agreed to donate such a generous amount of equipment to the Institute," said Dr. Geoffrey Fox, dean for educational computing. "We are sure that these computers will be of considerable benefit to our students, and we hope that the software developed for our courses will find wide use in academia."

The Hewlett-Packard systems, consisting of 22 color desktop computers and supporting equipment, will be used in an introductory computer science course, an introductory solid-state electronics course, and a solid-state electronics laboratory. In the first course, freshmen will use the Hewlett-Packard computers to learn the basic principles of computer science, including modern programming techniques, and in the last two, undergraduates will use the computers to design various electronic devices.

Caltech has made a major commitment to educational computing, designating \$850,000 for the project over the last year. In addition, the Institute has received pledges of cash and equipment from computer vendors totaling more than \$1 million for educational computing. The Caltech Educa-

tional Computing Project will include over 800 computers when fully implemented in the next three years. These computers, linked to each other and to campus mainframes by a high-speed campus network, will reside primarily in clusters of up to 10 or 20 machines placed in classroom areas, laboratories, the computing center, and libraries. Also, students will have network outlets in their student houses, should they wish to communicate with the campus system using their own home computers.

The Caltech project will aim primarily at developing courseware for all the intellectual disciplines represented at the Institute. Caltech educators will emphasize the development of specialized graphics software that will enable students to 'see' abstract concepts in visual terms. The Institute will use a variety of machines for educational computing, said Dr. Fox.

"We have concluded that a multi-vendor environment will be to Caltech's best advantage, because the different uses of computers envisioned by the faculty in various disciplines correspond to different optimizations of currently available hardware," he said. Besides Hewlett-Packard, other manufacturers represented in the project include Data General, Digital Equipment Corporation, Evans & Sutherland, IBM, Tektronix, and Zenith.

# the gagfly

The exasperations of student life at Caltech

## One Flew Into the Cuckoo's Nest

One Ton had a rough life from the beginning. Her mother called her One because that was how many teeth she was born with. In subsequent years, it was also rumored that it was everything from her I.Q. to her beauty rating. Thus it was most fitting that as One completed high school, she applied to Tech and got accepted.

Prefrosh weekend was a blast for One. For once in her life, she felt actually beautiful, not just because both Harry K. Nerd and J.F. Cutthroat asked her to dance at the seven-house mishmash, but simply, in comparison to her company, she truly was. But despite her elation, she had a pressing problem on her mind.

Dinner earlier that evening in Rude-Ox had been frustrating. One found herself challenged with several baffling problems before she was able to partake in her victuals. At first she thought it meant that the students were trying to win a free meal, then much to her dismay, One found that not only had the students already paid for the meals in advance, but that the instructors were also being paid for their service.

The steak turned out to resemble shoe leather, and worse of all, there was only a dull butter knife and a bent aluminum fork to attack it with. After wrestling her arm sore, One thought about her problem, "Well, this is an engineering and science research school, someone must have a clever method of attacking this meat! I'll ask tomorrow on my campus tour."

And what a beautiful day it was for a tour! California was amazing. One loved the pink and purple sunset and it was so neat the way the plants all grew in such a controlled and well-behaved way, unlike the nature around where she lived.

As they walked into Seeley's Mud, a couple of scientists were arguing about when their next earthquake would be.

"April fifth is my son's birthday; he'll love it then."

"But quakes never occur within 109 days of Groundhog Day."

One interrupted, "Excuse me, what is the best way to eat this steak?"

After examining her sample, the professor who was now confused asked One, "You mean you'd rather eat this rock than study it?"

Next on the trip was Backstair. After getting lost in what appeared to be a hardware store labeled "Baxart" in the basement, One walked into the first office to ask what the best way to eat her steak was.

The man looked up slowly and sternly and said briskly, "Do you have a written statement of purpose and problem? If not, write one, and if you can't write, I can't help you, so go to

writing lab A, B, or C. Mind you, we collect, not correct, writing, so don't get your hopes up. Also, I am a liberal new socialist, so don't pull any invisible hand problems on me!" With that, the man stormed out of the building, hopped into his Mercedes, and drove off.

Person's Guts was a nice building. One walked through the heavy metal and glass doors and turned right. The receptionist sweetly asked if One needed help. Finally, One felt welcomed. She explained her problem and waited patiently as the receptionist thought. The receptionist told One that she'd go in to consult her boss about the problem and then disappeared behind the door marked, "Admissions."

BOSS: What is this interestingly diverse person doing here?"

RECEPTIONIST: I think she is a new student."

BOSS: You mean one of those got in?? Send her away at once, we don't want any!

One trooped next door to the Dean's office, and finding him out, was referred to the math department. Luckily, Slow's was just across the pond from Guts, so off she went to find the dean and explain her problem. He was with a group of math professors and after hearing her name, no one seemed interested in her problem.

FIRST PROFESSOR: One, one, hmm, hmm, that's exactly  $e^{2\pi i}$ !

SECOND PROFESSOR: No, no, it's better as  $\cosh^2 - \sinh^2$ .

THIRD PROFESSOR: But one is also the contour integral of...

ONE: I'm leaving.

In anticipation of a bit more practical know-how, One headed for the engineering buildings. The moment she entered Steal and announced her problem, several graduate students and professors eagerly gathered in the prospect of a lucrative consulting job. The air quickly became filled with snide and cutting comments as the competition grew keener for One's attention.

"Why are the T.A.'s here? They are never of help!"

"Let's not collaborate or cooperate on this one..."

"...hey, that guy's cheating already!"

Amid all of this confusion, One slowly slipped out the back and decided to head up towards the mountains for fresh air and a change of pace.

Luckily, she came across the JPL shuffle bus. As the car approached the sentry station, One was properly interrogated.

GUARD: Where is your special badge?"

ONE: I don't have one, but I have an important nutrition problem.

GUARD: Then turn back, we only work on problems which are classified as painful and unnutritious to the human system.

One sighed.

After all the hustle and tussle, One flew back to Okifenokee, Ohio, with her head spinning from recent experiences. Mrs. Ton asked One how it was and One said she felt as if she was Alice in Wonderland.

Mrs. Ton happily said, "So it was that good, huh?"

To which One replied, "No, but I sure wondered."

—Silly You

## Monopole Detector

from page 1

strumented such that we could measure the speed of a particle passing through them. Only a massive magnetic monopole could penetrate a series of detectors at such a low velocity."

"Such a system might well be cheap enough to cover a large area for substantially less cost than a scintillator array and could also display a more unequivocal monopole signature," said Dr. Barish. "However, the question remains whether this technique could be made sensitive enough. We would have to make the current system more than a hundred times more sensitive before it can be considered as a reasonable alternative, and this may not be possible."

The discovery of the monopole would constitute the first direct evidence of the validity of Grand Unified Theories, and could also provide a sort of thermometer measuring the temperature of the Big Bang that began the universe. Current theories hold that any existing monopoles could have only been created in the Big Bang, at a temperature of  $10^{27}$  degrees Kelvin. The highest temperature for which there is now evidence is  $10^{11}$  degrees Kelvin.

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M.I.T. Transfer Applications are due on  
April Fools Day

### THE ASCIT MOVIE

TONIGHT at 7:30 and 10:00

## The Return of the Pink Panther

In Baxter Lecture Hall

50¢ ASCIT members

\$1 all others

## Cinematech

Only Angels have Wings 7:30

Who's Afraid of

Virginia Woolf

9:50

Saturday Evening in Baxter Lecture Hall  
Students, \$1 All Others, \$2

### The Caltech Y Fly-by

Wednesday . . . April 4

Women's Rights Lecture, Baxter Lecture Hall,  
7:30 p.m. — "Women's Rights, Reagan's Wrongs,"  
Joannie Parker, member of N.O.W. L.A. Chapter.  
Cosponsored by the OWC and SWE.

Sunday . . . April 8

Sign up for the 2:30 p.m. performance of the  
Pasadena Symphony before Friday, April 6.

For more information contact the Caltech Y office at  
356-6163. Do not forget that the Y has used texts and  
paperbacks. Come on up and check us out. Just look for  
the green and white Y flag.

## JOB AVAILABLE

The California Tech needs an on-campus circulation manager starting immediately third term. The person must be reliable, have a car or guaranteed access to same, and be able to work 3-4 hours Friday morning (the earlier the better). This is a paid position. If interested, contact Joseph Lee in Page or send a note to 107-51.

## letters

## "Intellectual Resistance"

To the Editors:

Kudos for Brad Marston's March 2, 1984 letter to the editors concerning the Social Science Department at Caltech. I ran into similar unnatural intellectual resistance last term when I asked the Executive Officer of the Social Sciences Department if social science credit would be given for a psychology class on abnormal behavior I was planning on taking at the Art Center College of Design through the Caltech-Art Center exchange program. The reply was, "We have the best psychologist on abnormal behavior and there is no reason you shouldn't take it from that person"—even though the instructor at the Art Center has a Ph.D. in Psychology from UCLA. However, due to certain time constraints and academic requirements, it wouldn't be possible for me to take the Caltech class. It was then made clear other classes such as "Microeconomics Theory III" were available. I attended the Art Center class anyway ("general institute credit" was given) and it was far more interesting and challenging than any Caltech social science class I have taken.

Such arrogance is not confined to the Social Science Department. As a result of an unusual number of personal setbacks first term, I was forced to petition to the Undergraduate Academic Standards and Honors Committee for an underload. The petition was denied because it was obvious to the Committee and the Undergraduate Deans that what was really needed was a petition for a leave of absence and psychiatric assistance. I refused to be intimidated by

such an outrageous claim and asked the Chairperson of UASH to consider an appeal (it wasn't easy—a person in such an omnipotent position should be readily available, in person, to the students). After a few attempts to explain my situation it became increasingly obvious that Caltech as a whole does not live up to its commitment to the undergraduate students of an unrestrictive atmosphere in which to explore science. It was blatantly said over the telephone that an appeal was out of the question. It was also implied that my 3.2 GPA may suffer if I didn't consider the leave of absence. I didn't register second term. Supposedly this decision was reached after conferring with the Deans who suggested that the underload wasn't deserved because it would violate the Honor Code.

How does one defend such actions?

President Goldberger has said, "I hate to see someone graduate from Caltech so turned off about science when they came here just burning with the desire to be a scientist of some sort, and then have them turn their back on it." So do I and if it were not for an excellent association that I continue to enjoy with a research group on campus perhaps you would count me among the casualties of the most antediluvian atmosphere at Caltech.

I challenge the upperclass students of next year, especially the current first year students, to refuse to be discriminated against and intimidated by those professing to be in positions of authority. Refuse to be part of the ubiquitous anti-intellectualism that seems to pervade the so-called

"houses" at Caltech. Don't use the undergraduate female-male ratio and the academically challenging classes as your scapegoat. If you can conscientiously justify "rotation" in its current form I would like to know how. What strikes me as very tragic is the high degree of social stratification that exists among the undergraduates. Such closed-mindedness I accept as a general ill of society's—but Caltech's? Submit your views in the form of a letter to the editors of the *California Tech* since this affects you, not me.

Sincerely yours,

—Kelly D. Cherry

## DON'T CHEAT

*In order to start third term with a healthy understanding of the Honor System, the Board of Control has asked for the us to reprint a statement concerning homework from the Honor System Booklet.*

It has come to the attention of the Board that a serious problem exists in some classes. The problem is not cheating on exams but a different kind of cheating: collaboration on homework where none is allowed. The number of students or the number of points involved makes no difference. Those students who violate the homework policy in a class are taking unfair advantage of other students and the instructor.

The Board would like to remind students that violation of homework policy under any circumstances is an Honor System violation. Many students feel that homework policies, especially those under which limited collaboration is allowed, are unclearly stated by the professor. Students may be prone to interpret policies to their advantage. The Board would like to warn students against such liberal interpretations of unclear policies and to remind them that it is the responsibility of the student to understand the homework conditions clearly before beginning

continued on page 4

## No Shoes, No Shirt, No Slop

To the Editor:

A petition signed by 75 people was submitted to Servomation and to the Master, calling for "enforcement of California state health laws" concerning the wearing of shoes in the south house cafeteria. I address myself to the creators and signers of this document. Enforcing such laws is in essence instituting a rule for students to live under. Something I cherish about Caltech is that the rules are all reducible to common sense, the Honor System; there is some reason that the affected party can understand and agree with while going out of his way to comply. Reflecting on your proposal, I find no satisfying reason to arrange to always have shoes at lunch, and I do not agree that your rule is needed.

Your misleading reference to "health laws" suggests that you are concerned about some

real threat to public health. My feet are cleaner than your shoes, certainly cleaner than mine, and just plain don't interact with the food in any way. The reason behind big government's laws about shoes in the kitchen is to protect the generalized masses from the hazards of food outlets, for their own good. If that is your reason, too, I appreciate your concern but find your paternalism insulting. One reason restaurants require their customers to wear shoes is to avoid getting sued for a customer's accident. If that is your reason, I find your concern for Servomation Corporation impressive but misguided. The rule proposed, dividing Servo from a large fraction of the students, would from our side carry the message "We don't trust you," stifling, I dare say, the level and realistic feedback that the foodservice really

needs.

I think you're really concerned for neither the barefoot nor the corporation, but rather for yourselves. If it is simply an aesthetic matter to you, I can understand that, but it falls to you to clearly state your objection and defend your perceived right to dictate the dress of your equals. Caltech is tolerable precisely because everyday affairs are handled thoughtfully, from within. Wielding California law selectively based on personal aesthetics is not in the spirit of the Honor System. It is easy to think you want a rule that would not affect you directly and would make your environment more to your liking. Think, though...rules based on the personal aesthetics of a fraction of the temporary residents. Do you really want that happening here?

—Brian Mapes

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## The Inside World

**Blacker:** hello there. i am a gnat. i jump on  
Well, it's plain to me at least that the Blacker House pool table has never felt so good.  
Well, a sizable reward will be offered (and maybe even given) to the man (wo) who can explain why there are hundreds of empty yoghurt containers in the hyperspace behind the panel next to the showers in Pub.  
Well, come Tom.  
Well, our home-grown, gnome-thrown, scoreboard dome-known hero did not e'en flinch after receiving the full brunt of the unrestrained wrath of the law.  
Well, well, well, how very swell.  
—Big Sig Fernmeister (alive and well)

**Dabney:** No entry.

**Fleming:** Welcome back folks. The party of the century this term will be held Saturday in the Penthouse. Plans are being finalized for the Page—Fleming outdoor Olympiad. Long live the neighborhood.  
—Al Fansome

**Page:** "Look's like re-entry to me."  
—Kent Noble

**Lloyd:** No entry.

**Ricketts:** Another term bites the dust, Hurrah! The Social released this term's battle plan under a covering barrage of Froot Loops and junk food at last night's house meeting. So batter down the hatches and prepare for a party with Blacker, Capra, PCDE, and Dich Day. ONE MORE TERM TO GO!  
—Bob Bolender

**P.S. WE GOT BLOOM COUNTY! WE GOT BLOOM COUNTY! etc!**

**Ruddock:** Well, I just got back from break on Wednesday night, so I really don't know what Ruddock did over break.  
So I'll tell you what I did.  
First I flew to Boston to visit friends up there. I know, only a frosh would go to Boston on his spring break, but I had fun anyway.  
Then after a week there, I took a bus down home to Washington DC and saw my family and more friends.  
Then my friends and I jammed down to UVA and saw still more friends.  
Then I flew back to LA.  
Nothing fancy, but I had a good time. I hope everyone else had a good time, too.  
Take heart—only one term left until summer.  
—Chris Mihos

## Cinemattech Opens With An Unusual Pair

This Saturday, Cinemattech starts off the new term with a pair of quite disparate films, *Only Angels Have Wings* (7:30 in Baxter Lecture Hall) and *Who's Afraid of Virginia Woolf?* (at 9:50). The common thread? ... Adventure? ... Romance? That is pretty hard to say.

*Only Angels Have Wings* is an early (1939) adventure film starring Cary Grant, Jean Arthur, and Rita Hayworth. They were guided by one of the great American directors, Howard Hawks (of *Bringing up Baby* and *The Big Sleep* fame).

It is an adventure film dealing with a group of pilots, who everyday face their own doubt about the stability of their lives. The only way to come to terms with life's frail-

ty, with the looming shadow of death, is to simply ignore it. When one man dies, the indifference of his friends seem callous at first; yet by the end of the film, Hawks makes us understand. He makes us intimately aware of the nature of this anomalous breed of man, the adventurer.

Of course, a woman is present to add a strange depth to the struggle, a woman whose naive sentiments match those of the audience. And as she begins to understand the painful realities of the pilot's world, we do too.

*Who's Afraid of Virginia Woolf?* was directed by Mike Nichols (*Catch-22*, *The Graduate*, *Carnal Knowledge*). It features that leading couple of the sixties (who can still be read about every week in the *Inquirer*), Richard Burton and Elizabeth Taylor. They are supported by George Segal and Sandy Dennis. The film was nominated for 13 Academy Awards and won 6.

*Virginia Woolf* has a much more openly philosophical bent than *Only Angels Have Wings*. It explores the essence of interpersonal conflict with the scathing and insightful dialogue Nichols is so famous for.

Like many of Cinemattech's screenings this term, these films are not repetitions of the ones you have probably seen before. Instead, they are those classics which most people of college age seem to have missed and will continue to miss if the opportunity to see them is not presented. But this opportunity needs to be combined with a little bit of daring, a willingness to invest the time (and yes, the dollar) to become exposed to a side of the world which otherwise might escape from you. I urge you to take that chance. Go beyond the mainstream and take that "road less traveled by." After all, it might make all the difference.

—David Marvit

Next week:  
*Gizmo!*  
with the shorts:  
*The Wizard of Speed and Time* and *Animato*

## Baxter Is Feast of Sheer Beauty

by Jane Crawshaw and Frédéric Wong

The current exhibition at Baxter Art Gallery is a feast of sheer beauty. We witness the intense black and white photography of Don Antón, the brilliant colors of John Crawford, the stunning, super-realist compositions of John Swihart, the vibrant collages of Stephen Berens, and the lustrous, tangible surfaces of Stephanie Sanchez's work.

At first these artists seem to diverge and have little in common with each other, besides the aforementioned "beauty" of their respective creations. Why exhibit them together? After some reflection, however, we discover links binding these various artists together, links which provoke a more coherent, sublime and cerebral experience.

Religious (both Christian and pagan) and classical allusions have always been widely used in the art world. Leonardo da Vinci's "Virgin on the Rocks" being one of an almost infinite number. These religious and mystical concepts appear to be present in much of the work of the California artists represented at the Gallery. Although Jon Swihart denies

vehemently that his paintings portray parables or are religious offerings, we cannot help but interpret his works in a theistic light. One of the most obvious reasons for saying this is that a great number of his figures have haloes shining around their heads. In Swihart's "No. 10" the twentieth century is very much in evidence by the modern dress worn by the figures, but we

sense the tender innocence of the nativity scene of a bygone age. Swihart is able to paint the past into the present and the present into the past. By using this technique, he disorients us.

In a different way, Grey Crawford disorients us by juxtaposing the past and the present in his photo collage. Within his architectural landscapes, he uses everyday subur-

bia to evoke mystical visions of the past. In "St. Xavier over L.A." he depicts the mundane symbolized by the telegraph wires, the present in the astronaut, and past with the shrine of St. Xavier, which also suggests religious connotations.

Architecture and furnishings are also important in Stephen Berens' art. He juggles the perspective of his pictures, again confusing the bearings of the observer.

Don Antón's mysticism involves a fixation with death. Many of his photographs portray vivid images of decay, such as the prints of mummies. Religion is also evoked, as in the photograph of the man wading in the lake (a latter day John the Baptist or even Jesus Christ?). Antón's preoccupation with churches is also very clear. Images of their broken ruins abound.

Mysticism is not such a predominant theme in Stephanie Sanchez's work, but she has flirted with it in the picture "A Last Supper." An obvious biblical reference.

Altogether, this is one of the most eye pleasing and intriguing shows at Baxter and deserves a visit.



Jon Swihart's *Untitled*, 1983 is part of the current exhibit at Baxter Art Gallery, "Five Artists—Southern California." This and other works will be on display until April 21.

lies with the student. Furthermore, students who do understand the policy should remind others of it. The problem in general is not malice but lack of thought.

The Honor System is a boon to us all, and it can only continue in an atmosphere of mutual trust and respect. When people in a class, whether one or many, disregard the policies under which the class is conducted, the Honor System is damaged by the resultant distrust among students. We ask for your help in this problem; please try to understand clearly the policies in your class and help clarify these conditions for those who may not understand them.

Please feel free to comment through either letters to the editor of the *California Tech* or discussion with your BOC rep.  
—Board of Control

## Homework

from page 3

an assignment. If the homework policy is stated ambiguously in class, the students should ask the professor to clarify it rather than guess at the professor's intent. If the homework policy is considered too difficult or unworkable, the matter should be discussed with the professor rather than be taken into the students' hands. In addition, it should never be assumed that policy from a previous year holds. We would also like to remind professors that a clear, unambiguous statement of policy can avoid many problems. However, the ultimate responsibility for compliance with the policy, no matter how stated,

## Notes

### Nominations

Nominations for appointed offices close Monday night. If you want to get involved with ASCIT, signing up for these offices is a good way to start, so sign up now!

There will be an election one week from this coming Monday (i.e., April 9) on the proposed change in the ASCIT By-laws to increase ASCIT dues from \$15 to \$20 per term. Article XIII Section 1 would be amended to read:

DUES. The corporation dues shall be payable on registration day of each term at the rate given in the schedule below: Fall—\$20.00; Winter—\$20.00; Spring—\$20.00; Total—\$60.00

The Board of Directors has not increased the dues in more than 5 years, and consequently ASCIT's ability to support many clubs and social activities has been seriously curtailed by inflation. It takes a lot more money to hire a decent band and give significant support to clubs than it did last time the dues were increased. You may ask why the dues weren't raised earlier... The present BOD doesn't know.

## Women and Reagan

The Caltech Y, SWE, and OWC are presenting a lecture titled "Women's Rights, Reagan's Wrongs" on Wednesday, April 4 in Baxter Lecture Hall.

The lecturer, Joannie Parker, is the director of Women's Studies at West Lake School in Bel-Air as well as co-chair of the education task force for the National Organization for Women (NOW).

This presentation will cover topics including the power of the gender gap, the relationship between school prayer and abortion, and the effect of Reagan's policies on women and minorities.

A discussion period will follow the lecture.

On the Road

# Men's Glee Club Tours Northeast

By Min Su Yun

March 26, 1984

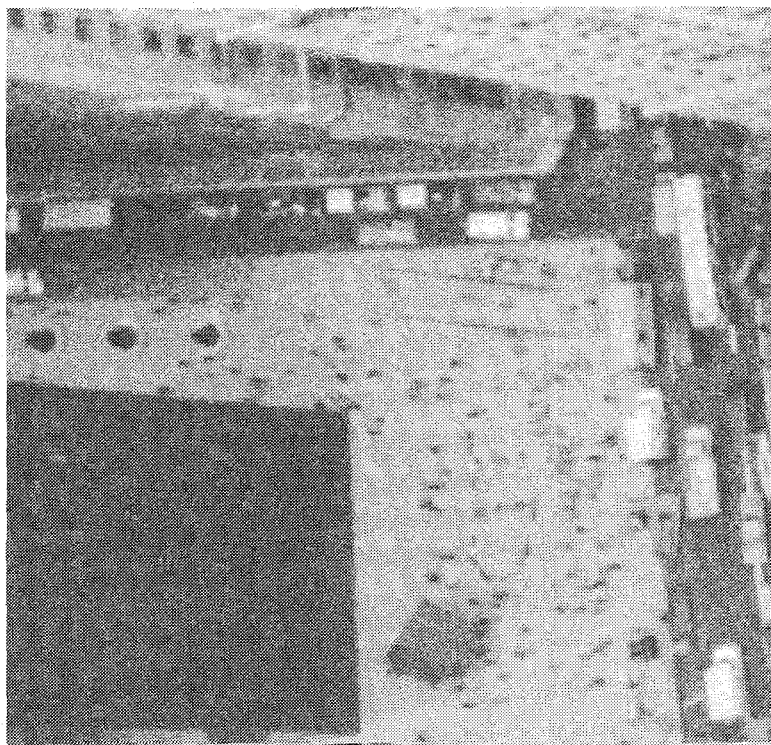
A quiet grin is on everyone's face. This is the moment everyone has been looking forward to during this short but tiring campaign. We almost lost some of us in a couple of incidents, but we are all back home with no major casualty. We will carry our weary bodies to the living quarter for the night's rest. The sun beyond the horizon gives us such a beautiful evening sky. Unfortunately, the peace is temporary. A new campaign will start for most of us when classes start.

Caltech's Men's Glee Club composed of 35 men, 1 robot, and 1 Teddy bear returned from its annual spring tour on Monday. In the nine days of the tour, the Glee Club visited and performed at several places around the eastern part of the United States. After leaving Caltech at 8:30 a.m. on Saturday morning, March 17, we arrived at Boston around 5 p.m. We were hosted by the members of the Harvard Men's Glee Club for the next three days. We had four concerts in Boston including one at the famous Old North Church where Paul Revere started his historic ride. We also had a concert for the alums in Boston. Caltech Men's Glee Club's participation in the Harvard Extravaganza as one of the 16 participating performing groups was—and probably will continue to be—one of the most bizarre and unique cultural events Caltech has ever been involved in. The event, officially named as "Monkey Eating Peach, Rat Stealing Pumpkin, Phoenix Among the Peonies" and directed by Peter Sellers, involved simultaneous performances by more than two groups at a time. The simultaneous performance of a play, dance, singing groups, marching band, etc. by 300 performers was appreciated by about 500 spectators. A brief noon concert at M.I.T. was postponed indefinitely due to bad weather. The science demonstration by Mark Turner and Francis Celli at Arlington High School fascinated many students and members of the Glee Club.

On Tuesday, we were in Brookfield, Conn., the hometown of Scott Karlin. The concert at Scott's former high school was a success (and it was nice to see all those relatives of Concerto.) Many thanks to the warm hospitality of the people of Brookfield. We were in New York City by the next day and enjoyed a day off. On Wednesday and Thursday, (normally rare) Techers could easily be spotted in the wilderness of N.Y.C.—in the subway, Central Park, the Metropolitan Museum of Art, Wall Street, Greenwich Village, Times Square, etc. We gave a singing lesson to the cadets of the Valley Forge Military Academy and the Coast Guard Academy in a joint performance at the New York City Glee Club meeting.

We arrived at Princeton University the next morning. Erick Kovaar, a former Page Boy and the president of the Princeton University Chapel Choir, was the first one to welcome us. After the evening concert in the third largest university chapel in the world, we spent the night with members of the Chapel Choir, and some of us even went to parties. After an early departure from Princeton, we stopped by Chincoteague Island Wildlife Preservation Area. Driving over a 20 mile long bridge over Chesapeake Bay was quite an experience. We finally arrived in Williamsburg in the late afternoon and had an evening concert in Bruton Parish Chapel, the historic main chapel of Williamsburg during the Colonial era. Unfortunately, we had to leave Williamsburg soon after the concert because we were to perform in the National Cathedral in Washington, D.C., the next morning.

Washington, D.C., was the most beautiful city we went to during this tour. In contrast to the snow and cold weather we had in Boston, we could feel that the front edge of spring was already here in Washington, D.C. The grass was greener, and there were some early flowers celebrating the coming of spring. The performance at the morning service of the National Cathedral was quite memorable. Not only is it one of the largest cathedrals in the world, but it has numerous masterpieces of art and architecture. Most of us spent the afternoon touring the Smithsonian Museums. The last concert of the tour was at Colesville United Presbyterian Church that evening. Many alumnus and friends came to the concert, and we probably gave the best performance of the tour. It was fun to talk to those alumnus, although some



The Caltech Men's Glee Club performs Caltech's *Alma Mater* for New Yorkers in front of the World Trade Center.

—Photo by Mark Carlin atop the World Trade Center

sports

## Weekly Sports Calendar

Fri.	3-30	1:00 pm	Golf	Cal Lutheran	Los Robles
Sat.	3-31	11:00 am	Track	Whittier & Redlands	Caltech
Sat.	3-31	2:00 pm	Baseball (2)	Christ College	Christ College
Sat.	3-31	2:00 pm	Men's Tennis	Pomona-Pitzer	Pomona-Pitzer
Sat.	3-31	2:00 pm	Women's Tennis	La Verne	La Verne
Sun.	4-1	3:00 pm	Women's Soccer	Our Gang	Caltech
Mon.	4-2	1:00 pm	Golf	Occidental	Oxy-Annandale
Tue.	4-3	3:00 pm	Baseball	L.A. Baptist	L.A. Baptist
Tue.	4-3	3:00 pm	Men's Tennis	Claremont-Mudd	Caltech
Tue.	4-3	3:00 pm	Women's Tennis	Clare-Mudd-Scripps	CMS
Sat.	4-7	11:00 am	Track	Chapman & Colorado	CMS
Sat.	4-7	12 noon	Baseball (2)	Pomona-Pitzer	Caltech
Sat.	4-7	1:30 pm	Women's Tennis	Pomona-Pitzer	Caltech
Sat.	4-7	2:00 pm	Men's Tennis	Occidental	Occidental

of us were more interested in refreshments. One of the alumnus was surprised to be informed that Caltech now is coed. He repeatedly asked me if female students have any problems keeping up with the male students.

We spent the last night of the tour with the families of Caltech alumnus. While most Techers were spending their time in lines for registration, the members of the Glee Club were enjoying their last bit of free time in Washington, D.C. The TWA Flight 891 carrying the Caltech Men's Glee Club took off from Dulles Airport at 5:19 PM heading for LA.

Although we were busy and tired, the tour as a whole was fun and worthwhile. We met many interesting people and sang at various places, including bars, airplanes, and on the streets of New York City, as well as at scheduled concerts. We enjoyed ourselves at shows and operas, visited museums of all kinds, toured historical sites, and above all, made people know how nice and friendly Techers are. The members of the Men's Glee Club would like to express special thanks to everyone who made this trip possible and to all those wonderful hosts of the East coast.

## Beavers Put it Together

by Doug Oute

The spring break was a rewarding one for the Beavers. In exciting baseball action, Caltech added two more victories to its record, beating Christ College 13-11 and trouncing Pacific Coast Baptist Bible College 10-2.

The Beavers put it all together in the first game of a doubleheader against PCBBC. Caltech's offense clobbered the PCBBC pitching staff, while Jim Hamrick hurled a three hitter for the Beavers. In the top of the first, Caltech drew first blood, scoring two runs on Pat Harrison's single. PCBBC countered with a run in their half of the first and another run in the third. The Beavers then kicked their offense into high gear, and pounded festivities with a single. An error and two walks later, Pat Harrison ripped a double to deep left field, scoring two runs. Caltech rounded out the scoring for the day by picking up two more runs in the fifth on some sloppy play by PCBBC.

In the second game, the Beavers learned the meaning of the old baseball adage, "You can't sweep a double header unless you win both games." PCBBC turned the tables on Caltech, winning 13-3. Kurt "Turbo" Schwartz carried Caltech offensively, getting three hits in four at bat. Brett Bush also hit a timely double to drive in two runs for Caltech, and Ed Casey picked

up two hits in five at bat.

Christ College was Caltech's next victim. The Beavers piled up 13 runs in five innings against Christ. Marty Hunt had a great day, driving in four runs with a home run and two singles. Steve Havstad also drove in two with a triple and a single, while running wild and stealing four bases. Bob Mostert collected two singles and a triple in four trips to the plate. Pat Harrison batting score was 2 out of 4. Michael Keating rounded out the fireworks for the day, collecting two hits in five at bat, and stealing two bases. Caltech nearly fell prey to the late-surgings of Christ College, but managed to keep Christ down long enough to win 13-11.

The Beavers met the Wisconsin Whitewater Warhawks in a Monday doubleheader and were thashed in the first game, giving up three touchdowns on route to a 21-3 loss. Pat Harrison was Caltech's leading offensive threat once again, collecting two hits in two at bat. The Beavers played a good game in the second half of the doubleheader except in the third inning, where the Warhawks scored nine runs. Caltech never recovered and lost 12-3.

The Beavers travel to Irvine to play Christ College on Saturday and hope to be on a winning track before restarting the league season.

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# Good Nutrition Means Better Health and Longer Life

Most of us grew up thinking that nutrition was a great bore. We learned the basic four food groups and how many servings per day we were supposed to eat of each group. But most of us went on eating exactly as we had before and probably forgot the groupings, not to mention the recommended number of servings.

The word nutrition was considered a 'dead' word. It did not sell, nor did it motivate. Our first impression of nutrition were negative; we were frightened with the findings of harmful food substances and

chemicals in foods. As we became more informed as consumers however, nutrition took a turn for the better.

Many of us now pause to read nutritional information on labels at the market, and we stop to think before dropping coins into vending machines. More and more of us are taking interest in how and what we eat, and how it may affect our health.

Recently, research has convinced us that the food we eat can affect our health and longevity. We have found that the typical American diet

can contribute to the nation's major killers, such as coronary heart disease, hypertension, stroke, cancer of the colon, breast cancer, and cirrhosis of the liver. We could reduce our health risks and stay healthier if we were to just incorporate some dietary changes. An evaluation of our diet and eating habits would be extremely beneficial.

To begin with, we have the focus on the group of nutrients, three in particular — carbohydrates, fats, and proteins. The typical daily diet consists of 46% carbohydrates

(mostly refined), 42% fats (mostly saturated), and 12% proteins. Our diets *should* consist of 55-60% complex carbohydrates (unrefined) — wheat, bran, breads, cereals, pasta, grains (rice, corn), fruits, vegetables, dried beans, and peas (kidney, pinto, navy, lentils, chickpeas, black-eyed), 30% fats — limited red meats, leaner cuts of meats, more fish and poultry, low-fat dairy products, vegetable oils (rather than animal), and 10-15% proteins — vegetable protein and legumes (dried peas and beans), grains, nuts, seeds, peanuts,

fish and poultry, low-fat dairy products, and limited red meats.

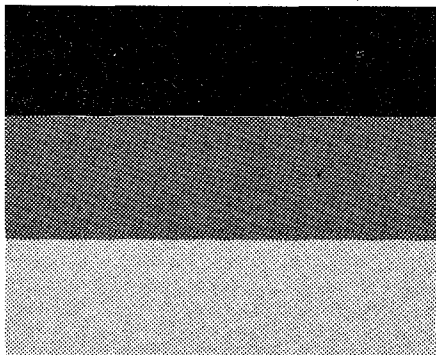
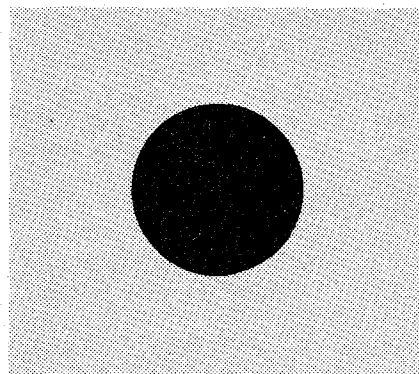
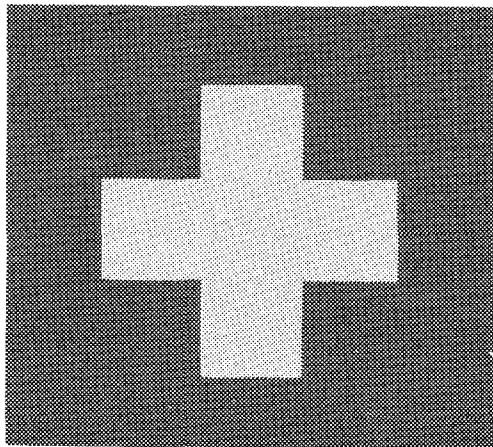
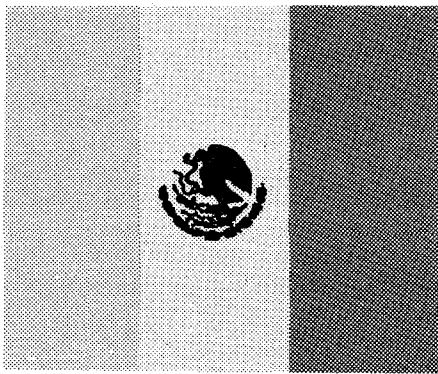
There is no doubt that you want to look well and feel well all of your life. The dietary changes should follow an evolutionary route — a gradual change rather than a revolutionary one. The changes need to be long-lasting, and variety and moderation are important for implementing such permanent changes.

Here some the suggested guidelines for setting your dietary goals:

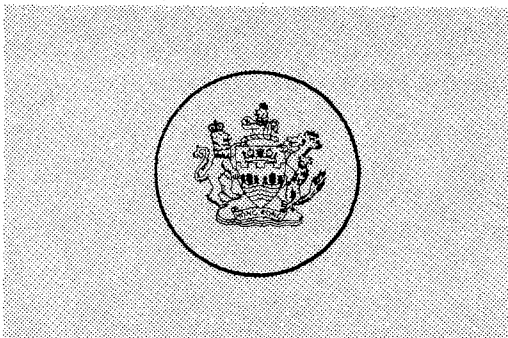
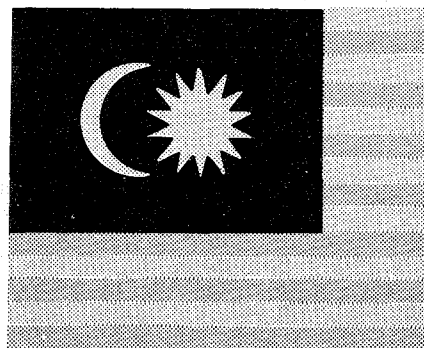
- Increase consumption of fruits and vegetables.
- Decrease consumption of foods high in cholesterol.
- Decrease consumption of animal fats.
- Decrease consumption of sugar and foods high in sugars.
- Decrease consumption of salt and foods high in salt.

changes. Next week we will continue with nutrition with an article on Carbohydrates.

Janice Ramaeker  
Student Health Center



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We also have several summer internship positions available in Malaysia. This program is for BS/MS Electrical Engineering students who are, at least, in their sophomore year and who want to work in Malaysia the last two summers prior to graduation.

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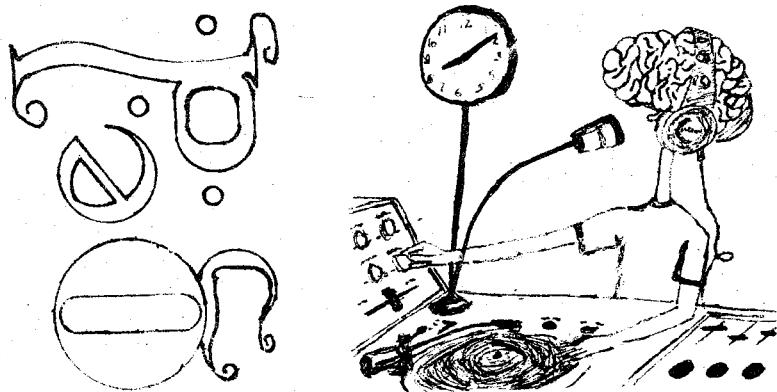
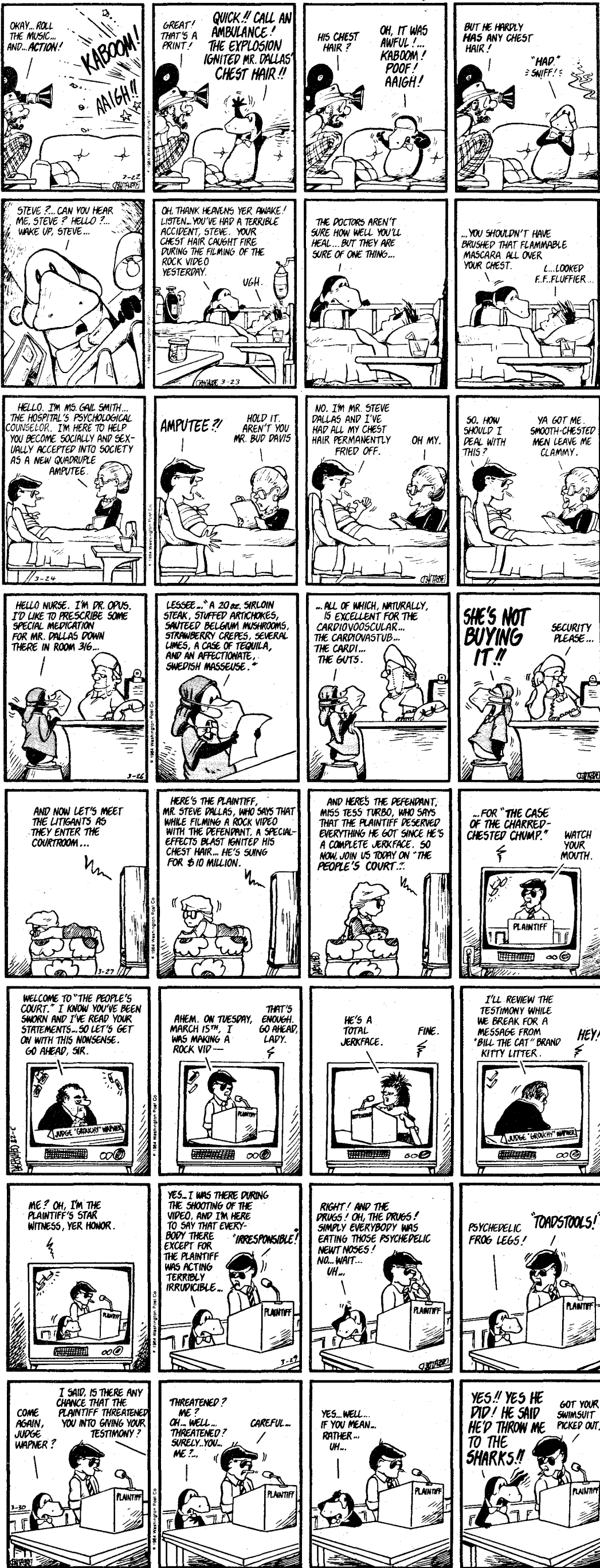
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**BLOOM COUNTY**

by Berke Breathed



by Zobi-Wan

The author wishes it to be known that the efforts of the large body of faithful followers of this column who have petitioned so earnestly for the appearance of more of the invaluable proofs which have earlier flourished here are not going unnoticed. The problem, far from being one of a lack of tenable proofs, is simply that the business of presenting counterintuitive concepts is at best a risky undertaking in our culture. Many of the more reactionary members of this society have expressed a positive discomfort with regard to such concepts as "Caltech does not exist," "The end of the world is coming," and "All assumptions are true." It has long remained my firm conviction, and I have stated it as such, that the inability of certain persons to accept this admittedly novel method of syllogistic construction in no way constitutes evidence against its validity. The fact that what I propose in this column is unusual does not mean that it is wrong. Nevertheless, my primary purpose is to open the eyes of the populace to these new concepts, not to frighten them away, and toward this end I have spent considerable time reassessing my pedagogic strategy.

I have at last concluded that a somewhat gentler manner of presentation may be in order. Never fear, faithful scholars: I am honor-bound not to sacrifice rigor for clarity. The only change evident will be an increased vulgarization, or drive at mass appeal, of the concepts discussed herein. At no time have I entertained the notion of undermining my self-appointed task in order to placate my less imaginative readers. I might note at this time that it has been hinted by some that my proofs would find wider acceptance were they diluted to the caliber of the old chestnut: You are not here. (Proof: You are not here if it can be shown that you are somewhere else. Now, you are not in Mexico; indeed, you are somewhere else. But if you are somewhere else, then you cannot be here.) To those who would recommend such an adulteration of pure logic, I reply simply: I wish you were not here.

To give an example of the sort of "vulgar" (vis-à-vis "popular") proof I wish to present, let us consider a familiar axiom:

$$1 = 2.$$

Before my doubters stalk away in angry confusion, I would ask them to read through the following simple and easily grasped proof.

First, we are told that

- (1) There's one in every crowd.

So if we choose a set  $C$ , representing any member of the class known as "crowds," then  $C$  contains one element, denoted  $c$ :

- (2)  $\exists! c \in C.$

Also, we know that

- (3) Three's a crowd.

In other words, a crowd has three members (its rank, denoted  $r$ , equals 3):

- (4)  $r(C) = 3.$

Combining (2) and (4) implies that there exists exactly one  $c$ , an element of  $C$ , and that  $C$  contains three elements. That is,

$$r(C) = 1 = 3$$

- Adding 1:  $1 = 3$
- Dividing by 2:  $2 = 4$
- (5)  $1 = 2.$

I am certain that even readers of the most immutable conservatism cannot but be persuaded by the elegance and simplicity of this proof. I take a measure of what I feel to be justifiable pride in the realization that I have no doubt won over many new supporters with this argument. Consequently, I shall strive to present more such proofs in the immediate future.

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## announcements

### Much Ado About Renaissance Music

Musicians are needed for Shakespeare's *Much Ado About Nothing*. If you can play a Renaissance instrument, stop by the drama office and leave your name and a number where you can be reached. For more information, contact Anita Nardine at 796-0331.

### Caltech-Oxy Concert

The Caltech-Occidental Orchestra will give its third concert of the year on Friday, April 6 in Ramo Auditorium at 8:30 pm. Featured soloist will be William Bing, Artist-in-residence at Caltech and Director of the Caltech Wind Ensemble, as soloist in Haydn's Trumpet Concerto. Also on the program will be Beethoven's Symphony No. 4 and Brahms's Academic Festival Overture. Admission is free.

The newly revitalized orchestra will be playing in Ramo for the first time under Gross's direction. "There has always been a problem of finding an adequate hall for the orchestra concerts at Caltech," says Gross. "We outgrew the capacity of Dabney Lounge in our first concert. We squeezed a sixty-five piece orchestra and a sizeable audience into the room in November, and it was an experience not to be repeated." At that time the Ramo stage was not large enough to seat the orchestra. But as a result of a grant from the Student Investment Fund and the Student Activities Office, additional platforming is being constructed in Ramo to increase the stage area for this and for future concerts. The Caltech Office of Public Events is also generously defraying some of the expenses involved in hopefully making Ramo the future home of the Orchestra's Caltech concerts.

Trumpet soloist Bing has played in numerous major orchestras, including the Philadelphia Orchestra, Detroit Symphony, the L.A. Philharmonic and the L.A. Chamber Orchestra. He also is an avid jazz player and is currently playing with the jazz/fusion group *Starbound*.

There will be a reception after the concert.

### Tokyo String Quartet

Violist Raphael Hillyer joins the Tokyo String Quartet in concert, Sunday, April 1 at 3:30 pm in Beckman Auditorium. This concert is one in the series of Coleman Chamber Music Concerts.

Schubert's Quartettsatz in C Minor, Op. Post.; Mozart's Quintet in C Major, K. 515; and Brahms' Quintet in G Major, Op. 111 will make up the program.

Violinist Kikuei Ikeda, violist Kazuhide Isomura and cellist Sadao Harada were trained at the Tokyo Music Academy. Violinist Peter Oundjian, who joined the ensemble in 1981, is a native of Toronto and received his Master's Degree from Juilliard.

The Tokyo String Quartet has performed over 1,500 concerts on five continents and has made numerous recordings since its formation in 1969. In 1970 the quartet won the Coleman Chamber Ensemble Competition.

Fifty free tickets and 50 tickets at \$4.00 each are available to Caltech students with a Caltech student ID (limit 1 free ticket and 1 ticket at \$4 per student). They are available at the Caltech Ticket Office. Regular tickets are \$15.50-13.50-12.00-9.00. For information, call x4652.

### BADJ

Several shows have opened up in the KKAL schedule. If you are interested in imposing your tastes on an audience, dial 577-8407 and ask for Jim.

### Political Internment

The Beckman Internship will be available for the summer of 1984. This internship, supported by friends of Dr. Beckman, pays a stipend of \$2,600 plus travel expenses. It allows a selected Intern to spend the summer working in the office of a politician and to see the process of government from the inside. The Intern is expected to make arrangements with the appropriate political persons. It is open to any Techer who intends to be a Caltech undergraduate next year. If interested, contact David Wales in the Deans' Office, x6351, by Monday, April 2nd.

### Stamp Out Rubella

Measles, rubella and mumps infections continue to occur on American campuses. A concerted immunization effort is being made by the student health center staff for prevention and control of these diseases. Starting on Tuesday, April 3 and continuing through April 19, 9:00 am until 12 noon and 6:00 pm until 9:00 pm weekdays, the Health Center is offering free rubella vaccinations to students. We hope you will take advantage of the information on rubella and the need for establishment of immunity to this disease. This information will be circulated on campus during the next couple of weeks. Additional information can be obtained by calling ext. 6393 or stopping by the Health Center.

### Leadership Talk

Dr. Robert Lucky, Executive Director, Research, Communications Sciences Division, AT&T Bell Laboratories, will talk on leadership in a scientific environment, Tuesday, April 10th, at 4:00 pm in Dabney Lounge. Pizza and soft drinks after the talk. The talk is sponsored by AMETEK Corporation.

### Shabbat

Come celebrate the end of the first week of the term at Sabbath services. Sponsored by Hillel. 5:30-6 pm tonight in the Y Lounge, Winnett Center.

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**WANTED:** Two students for part-time work with CADRE computing facilities in the Division of Engineering and Applied Science. One position is devoted to maintenance and updating of VMS software on VAX machines and related duties; some experience with VAX systems running VMS is required (8 hours/week; \$8/hour). The other position involves general duties associated with maintenance of computer operations; some familiarity with computers, terminals and printers is desirable (8 hours/week; \$6/hour). Contact Jon Melvin (312A Thomas, x4126), Nick Jones (310 Thomas, x4165), or F.E.C. Cullick (201 Karman, x4470).

### Health Reps Exist!

Have you ever wondered who you should talk to when you had a concern or perhaps a suggestion to offer regarding the Caltech Health Center? Well, there are two of us! The undergraduate representative of the Health Committee is Susanna Chan, who can be reached at Lloyd House, Rm. 229, Mail Code 1-54, x6180 or x3775. George Carman is the graduate student representative and can be reached at Beckman Labs, Rm 322, Mail Code 216-76, x6824. Please feel free to drop by.

### Work In Japan?

A Caltech alum is offering two jobs in his Japanese factory for the summer. Travel, room and salary provided. Students will be doing basic factory work. If interested, see David Wales in 102 Parsons-Gates, or Sally Asmundson in 08 Parsons-Gates.

### Caltech Buyit

Would you like to live in the Caltech Buyit next year? The members of the Buyit observe the Jewish holidays, keep Kosher, and generally create a modern Jewish atmosphere. If you would like to be invited to dinner and learn more about the Buyit, please call Albert, Alvin, Israel, or Judy at 793-3859.

### Pictures Due Soon

Senior Pictures for the *Big T* are due Friday, April 13. The photos should be black and white glossies between 3x5 and 8x11, and should be turned in to 107 Winnett. Call Roger Fong (x3961) for more information.

### Calliope

Calliope: A Renaissance Band will perform the West Coast premiere of Peter Schickele's "Bestiary," Saturday, March 31 at 8 pm in Beckman Auditorium.

In the fall of 1980 the members of Calliope met with Schickele to discuss a commissioned piece for the group. The result was "Bestiary," about which Schickele has written, "...When the members of Calliope approached me about commissioning a music theater piece, a picture popped into my mind: the krumphorn as an elephant's trunk."

Among other pieces on Calliope's program will be the anonymous "Chominciamento di gioia," Burgundian Band Music, and Dances published by Pierre Attaignant.

Calliope is made up of four costumed musicians who perform on more than 40 replicas of Renaissance-era instruments. Members of the ensemble are Lucy Bardo, Lawrence Benz, Allan Dean and Ben Harms.

Caltech student prices for this concert are \$6.50-6.00-5.50; \$4 rush tickets will go on sale beginning one hour prior to performance time (subject to availability).

Tickets for Caltech faculty and staff are priced at \$12-11-10. All tickets are available at the Caltech Ticket Office, located just north of the Beckman Auditorium parking lot. For information, call campus extension 4652.

### Contribute to Totem

There are only a few weeks left to contribute to this year's *Totem*! Send your contributions to David Sahnaw, 1-55.

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